

## Exercise 16

In the following exercises, find the least common multiple of each pair of numbers using the prime factors method.

$$84, 90$$

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### Solution

Find the prime factorization of 84.

$$\begin{aligned}84 &= 2 \times 42 \\ &= 2 \times 2 \times 21 \\ &= 2 \times 2 \times 3 \times 7\end{aligned}$$

Find the prime factorization of 90.

$$\begin{aligned}90 &= 2 \times 45 \\ &= 2 \times 9 \times 5 \\ &= 2 \times 3 \times 3 \times 5\end{aligned}$$

The number that has all factors from both numbers is  $2 \times 2 \times 3 \times 3 \times 5 \times 7 = 1260$ , so this is the least common multiple.